
FACILITATOR 'S GUIDE

WORKSHOP ON THE

DETECTION AND CONTROL OF EPIDEMIC CHOLERA

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FACILITATOR 'S GUIDE

WORKSHOP ON DETECTION AND CONTROL OF EPIDEMIC CHOLERA

Why Is This Course Needed?

Epidemic cholera continues to be a grave problem in Africa. Since the 7th pandemic of cholera arrived in Africa in 1970, the disease has persisted in some areas as a persistent or endemic problem. In addition, large epidemics have claimed many lives.

Because cholera can spread swiftly through a population, early detection of cases is necessary in order to start education and sanitation activities rapidly and to identify possible sources of infection. Training health care workers to recognize and treat cholera patients, maintaining a local reserve of rehydration supplies, and educating the public in ORS use and the need to seek treatment when diarrhea begins will avert many cholera deaths. When an epidemic of cholera does occur, many cases and deaths can be prevented if the epidemic is detected *early*, and if effective control measures are begun *quickly*.

The course is designed to prepare district health personnel to detect epidemics of cholera early and to control epidemics effectively. District health personnel who attend the workshop and who carry out a series of self-study projects will:

- √ learn about the epidemiology of cholera
- √ learn how to detect epidemics of cholera
- √ learn how to control epidemics of cholera
- √ do projects to prepare the district for a cholera epidemic
- √ evaluate their district's readiness to respond to an epidemic
- √ make an emergency response plan.

Who Should Be The Participants In The Workshop?

The workshop is designed for district level public health personnel (such as District Health Officers) who have public health responsibility for a population of approximately 250,000 persons. These personnel are in the "front-line" in terms of detecting epidemics of cholera and they often are the most peripheral level at which an effective response can be mounted.

Workshop participants should, in turn, train health workers in their own districts.

Who Should Be The Facilitators For The Workshop?

Workshop facilitators should be public health or clinical experts who have had experience in responding to epidemics of cholera and who have experience in teaching. The participants in the workshop are district level personnel, so facilitators will usually be from the provincial, regional or national level. If facilitators and participants are from the same state or region, it will be easier for the facilitators to provide follow-up consultation and supervision. A Course Director will be in charge of most of the administrative arrangements and of overall planning for the workshop.

How Should the Facilitators be Trained?

All potential facilitators should attend the workshop themselves. They should work on the Self-Study Projects or thoroughly discuss them. Then, using the Facilitator's Guide, they should practice conducting the entire course -- several times, if possible.

Preparation Checklist for the Workshop

Use this checklist to prepare for a workshop. The course director should assign specific responsibilities and be sure that each activity is done on time. There are blank rows at the end for adding more activities.

WHAT TO DO	WHEN	PERSON RESPONSIBLE	DATE COMPLETED
Schedule workshop	_____ months before		
Arrange funding for workshop	_____ months before		
Arrange accommodations for staff and participants	_____ months before		
Select and invite participants	_____ months before		
Arrange transportation and other re-imbursement	_____ weeks before		
Arrange meals, tea/coffee	_____ weeks before		
Select and meet with training staff (facilitators, guest lecturers, technical experts)	_____ weeks before		
Prepare workshop schedule and assign facilitator responsibilities	_____ weeks before		
Make all preparations listed for each lesson	_____ weeks before		
Arrange for workshop venue	_____ weeks before		
Invite sponsors for opening ceremony	_____ weeks before		
Practice conducting workshop with facilitators	_____ weeks before		
Obtain materials for participants (course materials and paper, pens, folders, name tags, flipchart paper)	_____ weeks before		
Obtain materials needed by facilitators (course materials and paper, pens, chalk, overhead projector and screen/sheet)	_____ weeks before		

WHAT TO DO	WHEN	PERSON RESPONSIBLE	DATE COMPLETED

Preparations and Materials Needed before the Workshop

Materials

For the entire workshop:

- overhead projector, additional blank transparency sheets and pens
- flipchart and markers, tape and/or stand to hold paper
- chalkboard and chalk
- pens, pencils, pencil sharpener, paper, erasers, ruler
- calculators (optional)
- 1 copy of the *Guidelines* for each participant
- 1 copy of the *Exercise Book* for each participant. The *Exercise Book* contains exercises that will be done during the workshop and ten Self-Study Projects, which are to be done after the workshop
- 1 copy of the *Guidelines*, the *Exercise Book* and the *Facilitator's Guide* for each facilitator
- 1 set of overhead transparencies for the workshop

Preparations for each Session

Session I

- Assemble one set of workshop materials for each participant
- Make one copy of the workshop schedule for each participant
- Make one copy of the pre-test for each participant

Session II

- Practice lecture and put transparencies in order
- Prepare additional transparencies about cholera in your country (optional)

Session III

- Practice the lecture Detect and Confirm an Epidemic of Cholera. Put the transparencies in order.
- Obtain the name and address of the person(s) who should be notified of suspected cases and epidemics; try to find several ways of contacting them.
- If there are other people (e.g., counterparts across the border, police, customs agents etc.) who should be notified, get the names and contact addresses for them also.
- Obtain the name and address of the laboratory to which health facilities in the district should send specimens for confirmation of cholera



Session IV

- Assemble materials
- Practice lectures *Field Investigation* and *Calculation of Rates* and put transparencies in order
- Review calculations for the exercises
- Determine the primary and secondary threshold rates for each of the participant's districts
- In Exercise 3, if participants will use the populations of their own districts for calculating the rates, do the calculations before the lesson

Session V

- Practice lectures and put transparencies in order
- Review the information on clinical presentation and management of cholera in Chapter 2, Section 4.5 and Annex 1 of the *Guidelines*.
- Review the national and local experience in cholera control, and make notes to prepare for the discussion in Learning Activity 5.

Session VI

- Get examples of local or national public education materials on cholera.
- As part of the workshop invitation, ask participants to bring any examples of cholera health education materials with them
- Practice the lecture.



Session VII

- Practice lectures and put transparencies in order
- Find out if there are national or local guidelines which assign specific responsibilities for cholera detection and control to district and health facility level health workers. If there are, compare them to those suggested in Annex 6 of the *Guidelines*. If they differ significantly, prepare a handout of those that apply to the participants and to health workers whom they supervise.
- If all participants are from one area, calculate the amount of treatment supplies that would be needed for that area

Session VIII

- Decide on follow-up activities (i.e., future meetings of participants to discuss/work on Self Study Projects, or scheduled visits to participants as follow up)
- Prepare schedule for completion of Self Study Projects and follow-up activities (e.g., within 3-6 months if only working on the cholera preparedness, or within 12 months if participants are working on yellow fever and / or meningitis preparedness as well).
- Review Self-Study Projects
- Make one copy of the post-test (identical to pre-test) for each participant

How To Use This Facilitator's Guide

This *Facilitator's Guide* provides a guide to a workshop on the detection and control of epidemic cholera (2-1/2 days). This workshop may be given by itself, or may be combined with workshops on the control of epidemic meningococcal disease and yellow fever. There are suggestions for the preparation of the workshop and detailed lesson plans. You, the facilitator, may want to modify some of the lesson plans based on local experience or policy. You may also make modifications based on the knowledge and skills the participants already have.

Each lesson plan specifies:

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- √ the specific objectives for the lesson
 - √ the methods to use
 - √ the materials that are needed
 - √ any preparation that should be done
 - √ a step by step description of *learning activities*.

How to Prepare for the Workshop - Facilitators

The Course Director will assign responsibilities for certain aspects of the course to individual facilitators. Everyone involved in the course should meet at least one week in advance to discuss how the course will be conducted, to practice the lectures and exercises and to be sure that all preparations have been made. All facilitators should:

- √ Attend the workshop themselves.
 - √ Read the *Technical Guidelines on the Detection and Control of Epidemic Cholera*. Try to read them several times - the more familiar facilitators are with the Guidelines the better the workshop will be.
 - √ Read through this Facilitator's Guide and the Exercise Book. This will give a good idea of how the workshop should be conducted and the responsibilities of a facilitator.
 - √ Do all the exercises with the other facilitators.
 - √ Practice all the lectures they will be responsible for several times. For each lecture there is a set of prepared overhead transparencies. All the transparencies for each lecture are included in this Facilitator's Guide, as part of the lesson in which they will be used. In the Facilitator's Guide, each transparency is printed in reduced size, and there is room for facilitators to write additional commentary. For most of the transparencies, it is enough to read the words printed on the transparency (making some short phrases into complete sentences). For some transparencies, there is suggested commentary. Each transparency is labeled with keywords to indicate the name of the workshop, the name of the lecture and number of the transparency in that lecture, e.g., for the lecture
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on the epidemiology of cholera, the third transparency is labeled "*Cholera / Epidemiology / 3*".

As you practice the lectures and do the exercises, try to anticipate what questions the participants might ask you. In most cases, the answers will be in the Guidelines, but if not, ask the Course Director or another technical expert.

- √ Pay special attention to the "Preparation" section for each session in the Facilitator's Guide. Be sure that you have prepared everything needed well before the workshop.
- √ If there is extra time in the workshop, do some of the "Self-Study Projects" during the workshop.

SAMPLE SCHEDULE FOR WORKSHOP
ON THE DETECTION AND CONTROL OF EPIDEMIC CHOLERA

LOCATION

DATES - FROM MONTH & DAY TO MONTH & DAY

Day 1: Date

Time	Session
8:00 - 9:00	Opening Ceremony
9:00 - 10:00	Session I Introduction
10:00 - 10:30	Session II Cholera - Epidemiology
10:30 - 10:45	<i>Tea / Coffee</i>
10:45 - 11:45	Session III Detection and Confirmation of an Epidemic of Cholera
11:45 - 12:30	Session IV Field Investigation
12:30 - 2:30	<i>Lunch</i>
2:20 - 3:45	Session IV (continued) Field Investigation - Analysis and Use of Results
3:45 - 4:00	<i>Tea / Coffee</i>
4:00 - 5:30	Session V Responding to a Suspected or Confirmed Cholera Epidemic

Day 2 Date

Time	Session
8:00 - 9:30	Session V (continued)
9:30 - 10:00	Session VI Health Education
10:00 - 10:30	Session VII Being Prepared for an Epidemic of Cholera
10:30 - 10:45	<i>Tea / Coffee</i>
10:45 - 11:45	Session VII (continued)
11:45 - 12:30	Session VIII Planning for Follow-Up and Self Study Projects
12:30 - 2:30	<i>Lunch</i>
2:20 - 3:45	Session VIII (continued) Planning for Follow-Up and Self Study Projects
3:45 - 4:00	<i>Tea / Coffee</i>
4:00 - 5:30	Session VIII (continued) Planning for Follow-Up and Self Study Projects (continued) Closing

SESSION I

INTRODUCTION

- OBJECTIVES: Explain the goals and objectives of the workshop
- Administer pre-test
- METHODS: Presentation, written test
- MATERIALS: Course materials and pre-test for each participant
- PREPARATION: ___ Assemble one set of workshop materials for each participant
- ___ Make one copy of the workshop schedule for each participant
- ___ Make one copy of the pre-test for each participant

LEARNING ACTIVITIES

1 hour

1. Introduction

- a) Explain the goal and objectives of the workshop. Make these points:
- √ the goal of the workshop is save lives by preparing you to detect and respond to epidemics of cholera
 - √ the best way to save lives is to detect epidemics *early* and to respond *quickly*
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- √ you will learn to use data that you can gather locally to make decisions

b) Tell participants that, during this workshop and the follow-up projects, they will:

- √ review the epidemiology of cholera

- √ learn how to detect outbreaks of cholera

- √ learn how to control an outbreak of cholera

- √ consider how to prepare their own district (or health facility) for a possible cholera epidemic

- √ evaluate whether their area is able to detect and control epidemics of cholera

- √ make an emergency response plan.

c) Remind participants that some of them may have experience in detecting and responding to epidemics of cholera, or of other diseases. Sharing their experiences with the other participants will be an important part of learning in this course.

2. Schedule And Administrative Arrangements

a) Distribute the schedule for the workshop.

b) Briefly explain any special administrative arrangements (lengthy discussion and any individual problems should be dealt with later, not during classroom time).

c) Explain that after this two day workshop, they will return to their places of work, and undertake a series of practical projects. These projects will allow them to put into action the knowledge and skills learned at the workshop, and will help their districts prepare for a possible outbreak of cholera. The projects should be completed in the 3-12 months after the workshop.

3. Pre-Test

Administer the pre-test, if it has not yet been given yet. Tell participants that:

- √ the facilitators will use the results to improve this and future workshops; they can use the results to see how much they learn during the workshop
- √ they will take the test again after the workshop

4. Distribute Course Materials

- a) Distribute the course materials
 - b) Briefly, orient participants to the sections of the *Guidelines on the Detection and Control of Epidemic Cholera*
 - c) Tell participants that they will not have to take notes during lectures, because the information in the lectures is already included in the *Guidelines*.
 - d) Briefly, orient them to the three sections of the *Exercise Book*:
 - i) Workshop Exercises - will be done during the two day workshop
 - ii) Self Study Projects - will be done after the workshop
-

SESSION II

CHOLERA: THE DISEASE AND EPIDEMIOLOGY

- OBJECTIVES:** At the end of the lesson, participants will be able to explain the basic epidemiology of cholera
- METHODS:** Presentation
- MATERIALS:** *Guidelines on the Detection and Control of Cholera*, prepared overhead projector transparencies
- PREPARATION:** ___ Practice lecture and put transparencies in order
- ___ Prepare additional transparencies about cholera in your country (optional)

LEARNING ACTIVITIES

30 minutes

1. Introduction

Explain the topic and the objectives for the lesson. Explain that the information given in this lesson is also found in Chapters 1 and 2 of the *Technical Guidelines*.

2. Lecture: Epidemiology Of Cholera

Give a lecture on the epidemiology of cholera. Use the prepared overhead projector transparencies (*add others you prepare about cholera in your country*). Reduced versions of the transparencies are on the following pages -- there is room for you to write additional notes about what you want to say in the lecture.

Answer any questions (however, if the answer to a question will be given in a later session, say so, and ask the participant to wait).

Detection and Control of Epidemic Cholera

Epidemiology

CDC
Centers for Disease
Control and
Prevention

Cholera

- Diarrhea disease caused by *Vibrio cholerae*
- Since 1800, cholera has spread through world in 7 large waves (pandemics)
- Transmitted through fecally contaminated water or food
- Treated with rapid oral or intravenous fluid and electrolyte replacement

Cholera Map

Cholera in Africa

- 7th pandemic began in Indonesia in 1961, reached Africa in 1970
- 1971: 25 African countries reported cholera
 - (> 72,000 cases and 11,000 deaths)
 - overall CFR of 16%, as high as 35%
- 3,000-43,000 cases / year since 1971
- 1991: large epidemic
 - 14 countries
 - (>100,000 cases and 10,000 deaths)

The 7th cholera pandemic reached Africa in 1971 and spread rapidly in the region. By the end of 1971, 25 African countries reported cholera. More than 72,000 cases and 11,000 deaths occurred that year. The case fatality rate (CFR) was over 16% overall, but was as high as 53% in some countries.

Since 1971, cholera has persisted as a recurrent - or "endemic" problem. Between 3,000 and 43,000 cholera cases were reported in Africa every year until 1991.

In 1991, a second large epidemic affected 14 countries and resulted in over 100,000 cases and 10,000 deaths.

Epidemic vs. Endemic Cholera

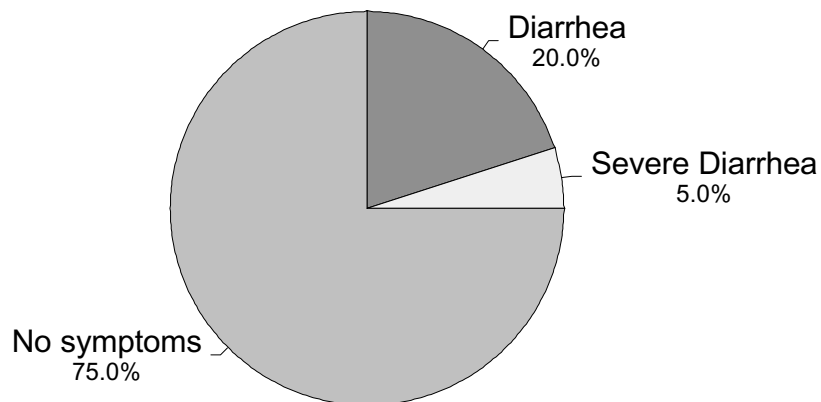
- Epidemic cholera
 - sudden increase in the number of cases of cholera over usual number
 - may be imported
- Endemic cholera
 - persistent, recurrent problem, occasional cases
 - public health officials should be aware of the usual rate of cholera in the area
 - an epidemic (increase in # of cases) may also occur in area where cholera is endemic

Clinical Presentation of Cholera

- Symptomatic cholera
 - acute watery diarrhea
 - profuse, "rice water" stools
 - no fever, no abdominal cramps
 - vomiting and leg cramps common

- Dehydration
 - can lose up to 10% of body weight
 - fluid losses up to 1 liter / hour
 - must replace fluids and electrolytes to avoid hypovolemic shock, renal failure and death

Clinical Spectrum of Cholera



Cholera has a broad clinical spectrum

Of people who are infected:

75% have no symptoms

20% have a diarrheal illness that cannot be distinguished from diarrhea caused by other organisms

Only 2% to 5% of those infected develop severe watery diarrhea, vomiting and dehydration

Modes of Transmission

- Fecal-oral route
 - dose of >1,000,000 organisms required
 - direct person-to-person transmission rare
- Contaminated Water
- Contaminated Food

Common Sources of Infection - Water -

- Contaminated at its source
 - shallow wells, surface water
 - *V. cholerae* can live for years in some aquatic environments

- Contaminated in the home / after storage
 - when inadequately washed hands come in contact with stored water
 - if wash utensils in contaminated water
 - if bathe in contaminated water

Common Sources of Infection

Food contaminated during or after preparation

- Moist grains served at room temperature or lightly heated
- Moist food is excellent environment for growth of *V. cholerae*
- Acidifying foods inhibits growth of *V. cholerae*
 - with lemons, tomatoes, yogurt or fermented milk

Moist grains, such as rice, millet, maize or sorghum, when served at room temperature or lightly warmed are common vehicles for cholera transmission.

When food is contaminated after cooking -even slightly- allowing the food stand at room temperature provides an excellent growth medium for *V. cholerae*.

Common Sources of Infection

Fruits and Vegetables

- **Grown at or near ground level and**
 - fertilized with night-soil
 - irrigated with water containing human waste
 - "freshened" with contaminated water
 - eaten raw

Factors Favoring Epidemic Cholera

- Environmental factors
- Host factors
- Serogroup

Factors Favoring Epidemic Cholera

■ Environmental Factors

- High Risk
 - areas without safe water supply
 - areas without good sanitation
- Seasonality not well understood
 - near equator, may be rainy or dry
 - in a given locale, may be predictable

Factors Favoring Epidemic Cholera

■ Host Factors

- Protection against cholera:**
 - immunity due to previous infection
 - breast-feeding (in endemic areas)
- Higher risk**
 - persons taking antacids or with reduced gastric acid

Factors Favoring Epidemic Cholera

- The organism
 - Only serogroups 01 and 0139 cause epidemics
 - other serogroups can cause diarrhea, but not epidemics

3. Summary

After the lecture, ask a participant to summarize the key points, or briefly summarize them yourself.
